



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/620,189

07/15/2003

Donald M. Snyder

0228

8689

112

7590

09/27/2005

ARMSTRONG WORLD INDUSTRIES, INC.
LEGAL DEPARTMENT
P. O. BOX 3001
LANCASTER, PA 17604-3001

EXAMINER

ROSENBERGER, RICHARD A

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,189

Applicant(s)

SNYDER ET AL.

Examiner

Richard A. Rosenberger

Art Unit

2877

PM

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-16 and 19-23 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 17, 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Art Unit: 2877

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6-16, and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over White et al (US 4,026,852) in view of Horn (US 4,072,426).

As in claims 1, 16, and 20, White et al teaches, in column 2, lines 18-20, that the fusion of a PVC layer can be measured by gloss. While White et al does not teach any particular gloss measuring instrument or technique, it is known in the art, as shown by Horn, to measure gloss by reflecting a laser beam (the light can be from a laser; see column 1, line 67, and column 4, lines 11-12), measuring the reflected light (with detectors 7, 8) and, on the basis of the reflected light, the gloss, which, according to White et al, can be correlated with a degree of fusion of the layer. It would have been obvious to use a gloss measuring instrument, such as shown by Horn, to measure the degree of fusion of a PVC layer, because, as taught by White et al, this is a known manner of measuring the fusion of such layers.

As in claims 2, 3, 8, and 21, it is known, as shown by Horn (column 3, lines 27-35), to calibrate the instrument by measuring a series of standards. When using the measurement to determine fusion of the layer, as taught by

Art Unit: 2877

White et al, it would have been obvious to use appropriate standards to relate fusion to the measurement in a straightforward application of the known general use of such standards to calibrate the instrument.

As in claims 6, 7, and 19, the instrument of Horn measures the intensity profile of the beam; it measures the directly reflected light (detector 7) and scattered light (detector 8), which together give profile information. Detector 7 measures the total intensity of the (specularly) reflected beam.

The White reference teaches that the gloss measurement can be used to determine fusion of PVC; Horn measures coated surfaces, including surfaces onto which plastics have been deposited (column 3, lines 23-34), as in claims 12. It would have been obvious to use measure any such surfaces for which fusion is of interest, such as layers made of PVC plastisol (claim 22), and including transparent (claims 9, 13), translucent (claims 10, 13) or opaque (claim 10) layers. As the light source of Horn directs light continuously during the measurement, and the detectors detect the light continuously, the method is "continuous" as in claims 11 and 15. Measuring any area of the object that is convenient and accessible, including near an edge (claims 14, 23), would have been obvious; there is no reason for those in the art to believe that the method would no work near an edge.

Clams 4, 5, 17 and 18 call for measuring a wavefront of the beam. The instant disclosure, in discussing this, discloses that this can be done in with a Shack-Hartmann-type single interferometer wavefront sensor system (instant specification, page 10, lines 2-3). There appears to be no disclosure

Art Unit: 2877

teaching or suggesting the use of such a wavefront sensor to measure the fusion of a layer such as a PVC pastisol layer; this goes beyond the general recognition in the art of using a gloss measurement as taught by White et al. Thus claims 4, 5, 17 and 18 contain allowable subject matter, and would be allowable if rewritten in independent form including all of the limitations of their respective parent claims.

3. The drawing figures filed 15 July 2003 are objected to under 35 USC 84(p). On figures 2, 3, and 4 the numbers and letters are smaller than the .32 cm (1/8 inch) height, and thus are too small to be plain and legible.

4. Herbrechtsmeier et al (US 4,991,932) mentions that lack of complete fusion (residual crystallinity) in a layer "often ... [is] the cause of strong light scattering" (column 2, lines 34-36). This suggests the use of a light scattering method to determine completeness of fusion in such layers.

Dandliker et al shows measuring the light scattering characteristics of a surface in which the distribution of the light over the entire cross-section of the beam is measured; see the embodiment of figures 3 and 4 of that reference.

Evans shows it is known to measure the light reflective characteristics of a surface "on-line", that is, continuously while it is being manufactured.

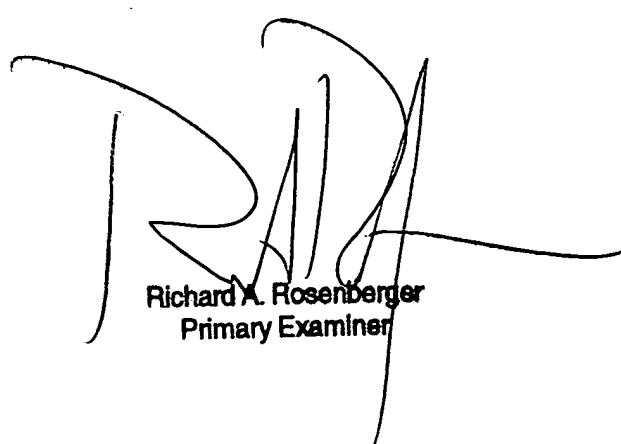
Art Unit: 2877

5. The Evans reference, above, discusses evaluating "the degree of fusion of the layers" (column 6, lines 26-28). It appears that what is meant by "fusion of the layers" in the Evans reference is different that what is meant in the instant specification, with Evans meaning the degree to which the two layers are fused together (Evans, column 6, lines 19-24), while in this application "fusion" refers to the process through which solid OVC particles are fused together into a homogeneous solid film (instant disclosure, page 1, lines 3-5 of paragraph [002]). Perhaps care needs to be taken to ensure that the claims distinguish over these two different meanings of the term "fusion".

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A Rosenberger whose telephone number is (571) 272-2428. The examiner can normally be reached on Monday through Friday during the hours of 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R. A. Rosenberger
23 September 2005



Richard A. Rosenberger
Primary Examiner